

## REMARKS

Initially, Applicant notes the amendments and remarks made by this paper are consistent with the proposals presented during the recent in person interview.

The Final Office Action, mailed March 21, 2008, considered and rejected claims 1-6 and 8-44 under 35 U.S.C. § 103(a) as being obvious in view of Boyle (US Patent No. 6,279,054). Many of the claims 1-6 & 8-40 were also rejected under 35 U.S.C. § 101 as being drawn to non-statutory subject matter.

By this response, claims 1-6, 8-41, and 43 are amended while claims 42 and 44 are canceled. Claims 1-6, 8-41, and 43 remain pending of which claims 1, 21, 31, 36, 41, and 43 are independent.

As discussed during the interview, the present invention is generally directed to embodiments for handling accesses to files stored on a server. These embodiments allow a file to be opened using a first handle that has certain access rights, and then to be accessed using a second handle having the same access rights. Each handle obtained to a file allows the same access to the file. *See* ¶ 33. The specification clarifies the importance of providing the same access rights to each handle: "It should be understood that obtaining a handle to the same open is different than opening the file via another channel and obtaining another handle to the file." ¶ 34. Because each handle has the same access rights, a file that is opened and locked using a first handle may still be accessed using the second handle. *See* ¶ 34 (By using a duplicate handle, a second client can access and write to an open file even though the file is opened and locked by a first client.).

Independent claim 1 illustrates how access with duplicate handles occurs from the perspective of the server. First, the server receives a request from a client through a first channel to open a file residing on the server. This file has state information.<sup>1</sup> In response to the request, the server sends a first handle to the client to use to access data in the file and at least part of the state information. The first handle has access rights to the file. The server also sends a resume key to the client by which a duplicate handle may be requested. The duplicate handle has access rights to the file that correspond to the first handle. The client receives the resume key, and then makes a request through a second channel<sup>2</sup> for a duplicate handle to the file. The server sends the duplicate handle to the client. The server then provides the client with access to the file via the duplicate handle.

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<sup>1</sup> State information may include a mode in which the file is open such as read only, locked, shared, and the like. *See* ¶ 2; *see also* ¶ 34 (describing a byte-range lock on the first 2,000 bytes of the file).

<sup>2</sup> A channel is defined in the spec as a connection. *See* ¶ 8. Therefore, making a request through a second channel implies that the client and the server are connected over a second connection.

Independent claim 21 and 31 contain similar limitations as claim 1 but from the perspective of the client. Independent claim 36 also contains similar limitations, but includes the limitation that the access is through a network redirector.<sup>3</sup>

Independent claims 41 and 43, while containing many of the same limitations as claim 1, are directed more specifically to systems in which numerous servers handle access to files through duplicate handles. For example, claim 41 recites a plurality of servers associated with a data store. However, only one of the servers controls the data store at a time. These servers are configured in a redundant relationship so that when the active server goes offline another server becomes active and takes control of the data store. The data store comprises open files, including the file opened by the client, and a data structure including resume keys to obtain duplicate handles for the open files. After the active server goes offline, the other server that becomes active builds a data structure that is included on the other server and places resume keys stored in the data store therein, so that the other server may provide a duplicate handle in response to a request for the duplicate handle from the client.<sup>4</sup>

Initially, with regard to the rejections of record, it is noted that many of the claims were rejected under 35 U.S.C. § 101 as being drawn to non-statutory subject matter for three reasons: claiming descriptive material per se, claiming both a computer-readable medium and a method, and covering signals. First, each claim has been amended to limit their scope of coverage to only computer storage media. The specification defines computer readable media as either storage media or communication media. *See* ¶ 24. Communication media is defined to include signals whereas storage media is defined as physical storage devices. By limiting the claims to storage media, the claims exclude signals and therefore qualify as statutory subject matter. Second, each of these claims is drawn to a computer storage medium that implements a method. In each claim, the computer storage medium comprises stored computer-executable instructions for performing the method. This language clearly indicates that it is the computer storage medium being claimed, not the method. Finally, each claim defines functionally descriptive material. The functions carried out by the stored instructions (or the method the instructions perform) are functional. "When functional descriptive

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<sup>3</sup> This additional feature was not addressed in either the present office action or the previous non-final action. However, this feature is not merely duplicative of those claimed in claims 1-20.

<sup>4</sup> These additional features of how the servers interact to provide duplicate access even when a server goes offline was not addressed in either the present office action or the previous non-final action. However, these features are not merely duplicative of those claimed in claims 1-20. For example, figures 7 and 8 (and the corresponding portions of the spec) address these features independently.

material is recorded on some computer-readable medium, it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized." MPEP 2106.01. Therefore, Applicant submits that this rejection is moot and should, therefore, be withdrawn. The foregoing was reviewed and generally agreed upon during the interview. At the Examiner's suggestion, the Specification has also been amended to even more sharply draw a contrast between the computer storage media and communication media.

Some of the claims (41-44) were also rejected as being indefinite for reciting the term "configured to." This language has been removed in each remaining claim; therefore, applicant submits that this rejection is also now moot.

Now, with regard to the substantive rejections based on art, it is noted that all of the remaining claims were rejected as being obvious in view of Boyle. Applicant submits, however, that Boyle fails to teach or suggest each of the limitations of the independent claims.

Boyle is directed to embodiments for arbitrating access to a COM port. The current office action equates the port of Boyle with the file of the present invention. Applicant submits, however, that they are not the same or even similar. Primarily, the file of the present invention resides on a server. Boyle does not teach or suggest accessing a file that resides on a server. The office action submits that Boyle teaches accessing a file on a server because the arbitrator of Boyle may detect an incoming ISDN call. ISDN, however, is merely a protocol for setting up network connections and does not imply that a file may be accessed on a server.

An application having a handle to the port of Boyle would not, as a result, have a handle to a file residing on a server. The application would simply be able to send or receive data through the port, such as, for example, sending data to a modem connected to the port. *See col. 1, ll. 15-19.*

The independent claims require that each handle be received over a channel. A channel is a connection to a server. *See ¶ 8.* Therefore, the claims require that the client be connected to a server over a channel (or connection) and that the handle be received over this channel. In Boyle, the handle is received by the application from the arbitrator, both of which are software components running within the same computer. Therefore, Boyle also clearly fails to teach or suggest the limitations requiring the handle be received over a channel.

It is also noted that with respect to claim 36, the office action fails to even address the limitation of "a client using a network redirector to request a first handle to open a file, the request

being made via a loopback path...." In this regard, it is also noted that Boyle fails to teach or suggest this limitation for at least the reason that Boyle is limited to accessing a port and not to accessing a file residing on a server. Boyle clearly fails to teach or suggest the use of a network redirector or a loopback path.

With respect to claims 41 and 43, the office action also fails to address each limitation of the claims stating that they present no limitations beyond those of claims 1-20. As described above, these claims do contain addition limitations that are distinct from the limitations of claims 1-20. Specifically, these claims are drawn to embodiments in which one server takes over handling access requests to a file when another server that was handling the requests crashes. Boyle fails to teach or suggest any such embodiment. Instead, Boyle is limited to an arbitrator running on one machine that arbitrates access to a single port. Therefore, Boyle clearly fails to teach or suggest a plurality of servers and each of the associated limitations.

In view of the foregoing, as well as for the other reasons discussed during the interview, Applicant respectfully submits that the other rejections to the independent claims are now moot and such that any of the remaining rejections and assertions made, particularly with respect to all of the dependent claims, do not need to be addressed individually at this time. It will be appreciated, however, that this should not be construed as Applicant acquiescing to any of the purported teachings or assertions made in the last action regarding the cited art or the pending application, including any official notice, and particularly with regard to the dependent claims.<sup>5</sup> For example, there are many limitations presented in the dependent claims that further distinguish the claims from the cited art, including, but not limited to the limitations presented in claim 25 wherein the second channel comprises a remote direct memory access (RDMA) channel in which data can be transferred from a client to a server without assistance from a central processing unit (CPU) on either the client or the server, and in claim 29 wherein the mode comprises an exclusive lock on a range of bytes in the file.

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<sup>5</sup> Instead, Applicant reserves the right to challenge any of the purported teachings or assertions made in the last action at any appropriate time in the future, should the need arise. Furthermore, to the extent that the Examiner has relied on any Official Notice, explicitly or implicitly, Applicant specifically requests that the Examiner provide references supporting any official notice taken. Furthermore, although the prior art status of the cited art is not being challenged at this time, Applicant reserves the right to challenge the prior art status of the cited art at any appropriate time, should it arise. Accordingly, any arguments and amendments made herein should not be construed as acquiescing to any prior art status of the cited art.

In the event that the Examiner finds remaining impediment to a prompt allowance of this application that may be clarified through a telephone interview, the Examiner is requested to contact the undersigned attorney at 801-533-9800.

Dated this 20<sup>th</sup> day of June, 2008.

Respectfully submitted,



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